202306UECM1404OE1b

Start again

Review of preview

Started on	Thursday, 29 June 2023, 05:57 PM
Completed on	Thursday, 29 June 2023, 05:58 PM
Time taken	58 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

The risk-free force of interest δ_t at time t is given by:
δ_t
$= 0.06, 0 < t \leq 15$
$= 0.09+0.003t, t > 15$
Calculate the accumulation at time t =20 of 600 invested at time t =10. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 1651.5
Marks for this submission: 0/1.

2
Marks: 1

Find the nominal rate of interest convertible quarterly which is equivalent to a nominal rate of discount of 18% per annum convertible monthly. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.185538
Marks for this submission: 0/1.

3
Marks: 1

You are given two loans, with each loan to be repaid by a single payments in the future. Each payment include both principal and interest. The first loan is repaid by a 4300 pyament at the end of 4 years. The interest is accrued at 8% per annum compounded semiannually. The second loan is repaid by a 5300 pyament at the end of 5 years. The interest is accrued at 6% per annum compounded semiannually. These two loans are to be consolidated. The consolidated loan is to be repaid by two equal instalments of X, with interest 10% per annum compounded semiannually. The first payment is due immediately and the second payment is due one year from now. Calculate X. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 3715.55
Marks for this submission: 0/1.

4
Marks: 1

At a certain interest rate the present value of the following two payment patterns are equal:

- 292 at the end of 10 years plus 587 at the end of 20 years.
- 635.65 at the end of 10 years.

At the same interest rate, 146.0 invested now plus 352.0 invested at the end of 10 years will accumulate to P at the end of 20 years. Calculate P. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 1027.249929
Marks for this submission: 0/1.

5
Marks: 1

You invest 4300 today and plan to invest another 2150 two years from today. You plan to withdraw 6,450 in n years and another 6,450 in n+5 years, exactly liquidating your investment account at that time. If the effective rate of discount is equal 6%, find n. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 9.533171
Marks for this submission: 0/1.

6
Marks: 1

Payments of 380, 580, and 780 are made at the end of years 9, 10 and 12, respectively. Interest is accumulated at an annual effective rate of 7%. You are to find the point in time at which single payment of 1740 is equivalent to the above series of payments. You are given:

- X is the point in time calculated by the method of equated time.
- Y is the exact point in time.

Calculate X+Y. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 21.3032
Marks for this submission: 0/1.

7
Marks: 1

Jeff puts 100 into a fund that pays an effective annual rate of discount of 25% for the first two years and a force of interest of rate $\delta_t = 2t/(t^2 + 20)$, $2 \le t \le 4$, for the next two years. At the end of four years, the amount in Jeff's account is the same as what it would have been if he had put 100 into an account paying interest at the nominal rate of i per annum compounded quarterly for four years. Calculate i. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 0.252879
Marks for this submission: 0/1.

8
Marks: 1

At time $t = 0$, John deposit 10,000 into a fund which credits interest at a nominal interest rate of 10% compounded semiannually. At the same time, he deposits P into a different fund which credits interest at a nominal discount rate of 6% compounded monthly. At time $t = 17$, the amount in each fund are equal. What is the annual effective interest rate earned on the total deposit, 10000+P , over the 17-year period? _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 0.078895
Marks for this submission: 0/1.

9
Marks: 1

You are given a loan on which interest is charged over 4-year period, as follows:

- an effective rate of discount of 6.3% for the first year;
- a nominal rate of discount of 5.7% compounded every 2 years for the second year;
- a nominal rate of interest of 5.0% compounded semiannually for the third year; and
- a force of interest of 6.5 for the forth year.

Calculate the annual effective rate of interest over the 4-year period. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.06183
Marks for this submission: 0/1.

10

Marks: 1

Click the following link to answer the questions:

https://forms.gle/Jgti2Eh6ep6qQpsc7

Then answer 1 here after submitting the form.
[Note: In order to enter the google form, you must make sure that you login to UTAR acccount. If you see "You need permission", this means that your are not login to UTAR account, switch to UTAR account] _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 1
Marks for this submission: 0/1.